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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/092,670 | 03/06/2002 | Donald C. Soltis JR. | 10016628-1 | 3827 |

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| EXAMINER | |
|---|---|
| MEONSKE, TONIA L | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2183 | |

DATE MAILED: 02/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/092,670 | SOLTIS ET AL. | |
| | Examiner | Art Unit | |
| | Tonia L Meonske | 2183 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *22 November 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

*2.* Claims 1-19 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Keckler, Stephen W., et al., Concurrent Event Handling through Multithreading, 1999, IEEE Transactions on Computers, volume 48, NO. 9, pages 903-916 (hereinafter "Keckler et al.").

*3.* The rejections are respectfully maintained and incorporated by reference as set forth in the last office action, mailed on August 24, 2004.

### *Response to Arguments*

4. Applicant's arguments filed November 22, 2004 have been fully considered but they are not persuasive.

5. On page 7, Applicant argues in essence:

> *"An "urgency" for the thread is for example based upon "how well a thread is processing (or will be processing) within a pipeline" and "how urgent the program or processor logic believes the thread should be". See Applicant's specification, paragraph [0007]. "An assessment is also made of a thread's execution and relative to timeslice expiration." See Applicant's specification, paragraph [0009].*
>
> *Keckler, on the other hand, discloses ...*
>
> *Keckler does not therefore diclose or suggest 'deactivating the first thread, or not, based upon a first urgency indicator for the first thread' as required by claim 1."*

However, Applicant is arguing a feature of the invention not specifically stated in the claim language, which is improper. Claimed subject matter, not the specification, is the measure of invention. Limitations in the specification cannot be read into the claims for

the purpose of avoiding the prior art. In re Self, 213 USPQ 1,5 (CCPA 1982); In re Priest, 199 USPQ 11,15 (CCPA 1978).

> *"It is the claims that measure the invention." SRI Int'l v. Matshshita Elec. Corp., 775 F.2d 1107, 1121, 227 USPQ 577, 585 (Fed. Cir. 1985) (en banc).*
>
> *"The invention disclosed in Hiniker's written description may be outstanding in its field, but the name of the game is the claim." In re Hiniker Co., 47 USPQ2d 1523, 1529 (Fed. Cir. 1998).*
>
> *"[A]s an initial matter, the PTO applies to the verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant's specification." In re Morris, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997).*
>
> *"limitations appearing in the specification will not be read into the claims, and ... interpreting what is meant by a word in a claim 'is not to be confused with adding an extraneous limitation appearing in the specification, which is improper'." Intervet Am., v. Kee-Vet Labs., 12 USPQ2d 1474, 1476 (Fed. Cir. 1989)(citation omitted).*
>
> *"it is entirely proper to use the specification to interpret what the patentee meant by a word or phrase in the claim, ... this is not to be confused with adding an extraneous limitation appearing in the specification, which is improper. By 'extraneous,' we mean a limitation read into a claim from the specification wholly apart from any need to interpret ... particular words or phrases in the claim." In re Paulsen, 31 USPQ2d 1671, 1674 (Fed. Cir. 1994) (citation omitted).*

In this case, if Applicant would like specific limitations read into the claims, then Applicant should specifically claim those limitations, such as "An urgency for the thread is based upon how well a thread is processing or will be processing within a pipeline and how urgent the program or processor logic believes the thread should be". Therefore this argument is moot.

6. On page 8, Applicant argues in essence:

*"Keckler further has no teaching or suggestion of modifying a thread's urgency indicator by inserting an instruction to the pipeline, as required by claim 11."*

However, Keckler has taught modifying a thread's urgency indicator by inserting an instruction to the pipeline. In Keckler, an instruction can only stall for a maximum of 255 cycles and then is given a higher priority and is allowed to execute, see page 908, left hand column. Assigning a higher priority to an instruction in Keckler is equivalent to the claimed "modifying a thread urgency indicator". Changing the urgency of the thread must inherently be performed by an instruction. Therefore, Keckler has in fact taught modifying a thread's urgency indicator by inserting an instruction to the pipeline. Therefore this argument is moot.

7. On page 8, Applicant argues in essence:

*"The Examiner argues that Keckler teaches a time slice of 255 cycles, page 908. We respectfully disagree: Keckler clearly points out that 'a ready instruction can only be stalled for up to 255 cycles.' This is not the same as timeslicing as in the immediate application. Keckler's multithreading in implemented by interleaving instructions from different threads over execution resources of a cluster on a cycle-by-cycle bases."*

However, the 255 cycles of Keckler reads on the claimed timeslicing. If Applicant would like specific limitations for timeslicing read into the claims, then Applicant should specifically claim those limitations. Therefore this argument is moot.

8. On page 8, Applicant argues in essence:

*"Keckler does not disclose or suggest a thread controller for monitoring processing of the instructions within pipeline execution units and for switching between multiple program threads based upon heuristics and urgencies of the program threads, as required by element ii of claim 14. Instead, and as noted above, multithreading is implemented by interleaving instructions from different threads over the execution resources of each cluster on a cycle-by-cycle bases. Keckler specifically teaches away from claim 14 by reciting that "unlike block multithreading [1], [34], which switches threads on long latency operations, ... the MAP chip makes its thread selections based*

*upon the availability of an instruction's register operands. See Keckler page 908, section 3.2.""*

However, to the extent that Applicant has claimed the invention, Keckler teaches the present invention in claim 14. Specifically, Keckler has taught a thread controller for monitoring processing of the instructions within the units and for switching between multiple program threads based upon (a) the heuristics and (b) urgencies of the program threads (page 908, left hand column, Keckler switches between multiple program threads based on (a) the time slice duration of 255 cycles, or the heuristics, and (b) the thread priorities, or the urgencies of the program threads.). Therefore this argument in moot.

*9.* On pages 7-9, Applicant presents arguments with respect to claims 2, 3, 4, 7, 8 , 15-18. However, these arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. Therefore these arguments are moot.

***Conclusion***

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

11. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tonia L Meonske whose telephone number is (571) 272-4170. The examiner can normally be reached on Monday-Friday, 8-4:30.

13. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie P Chan can be reached on (571) 272-4162. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

14. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

tlm

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